

Claims

1. Method for the sequential production of partial proteomes from the complete proteome of a cell preparation, characterised by the following method steps:
- 5 a) provision of a sample containing a cell preparation
- b) extraction of the cytosolic proteins and the membrane/organelle proteins from the sample provided in step a), leaving a cell nucleus preparation
- c) extraction of the proteins from the cell nucleus interior from the cell nucleus preparation obtained in step b) by treatment with an extraction
- 10 buffer having a pH of between 6.5 and 8 which comprises at least the following constituents:
- in total from 0.1 to 7 per cent by weight of one or more nonionic detergents
 - 15 - in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives
 - one or more salts from the group consisting of the alkali metal and/or ammonium salts in a total concentration of between 75 and 500 mmol/l,
- 20 where detergent-resistant proteins of the cytoskeleton and of the nuclear matrix are not extracted to a significant extent together with the proteins from the cell nucleus interior, but instead remain in the extraction residue.
- 25 2. Method according to Claim 1, characterised in that the extraction buffer employed in step c) additionally comprises a nuclease.
3. Method according to one of Claims 1 and 2, characterised in that the extraction buffer employed in step c) comprises polyoxyethylene sorbitan
- 30 monopalmitate as nonionic detergent, deoxycholate as cholic acid derivative and NaCl as alkali metal salt.

4. Method according to one or more of Claims 1 to 3, characterised in that the extraction of the cytosolic proteins and the membrane/organelle proteins in step b) is carried out by:

- 5 b i) extraction of the cytosolic proteins from the sample provided in step a) by selective permeabilisation of the plasma membrane without significantly impairing the integrity of the subcellular membrane/ organelle structures, the cell nucleus and the cytoskeleton.
- 10 b ii) extraction of the membrane/organelle proteins from the part of the sample remaining after the extraction in step b i) with retention of the structural integrity of cell nucleus and cytoskeleton.

5. Method according to one or more of Claims 1 to 4, characterised in that the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix are, in an additional method step d), extracted as a further partial proteome from the extraction residue remaining in step c).

15

6. Protein extraction kit at least containing an extraction buffer having a pH of between 6.5 and 8 which comprises at least the following constituents:

20 - in total from 0.1 to 7 per cent by weight of one or more nonionic detergents

 - in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives

 - one or more salts from the group consisting of the ammonium and/or alkali metal salts in a total concentration of between 75 and

25 500 mmol/l.

7. Kit according to Claim 6, additionally containing a nuclease.

8. Kit according to one of Claims 6 and 7, additionally containing buffer for extraction of the cytosolic proteins and/or the membrane/organelle proteins from cell preparations and a buffer for extraction of the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix.

30